

Applicant: T. Okumura, et al.  
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### **REMARKS**

Applicants appreciate the Examiner's thorough examination of the subject application and request reconsideration of the subject application based on the foregoing amendments and the following remarks.

Claims 1-18 are pending in the subject application.

Claims 1-18 stand rejected under 35 U.S.C. §103. Claims 13-18 were objected to as being in improper dependent form.

Claims 1 and 2 were amended for clarity and claim 2 also was re-written in independent form.

Claims 19 and 20 were added to more distinctly claim embodiments and aspects of the present invention.

The amendments to the claims are supported by the originally filed disclosure.

The specification (*i.e.*, the TITLE) was objected to and correction required. The specification was amended to address the Examiner's objections. The amendment(s) to the specification/ drawing figures do not introduce new matter because they either are editorial in nature or are supported by the originally filed disclosure.

### **35 U.S.C. §103 REJECTIONS**

Claims 1-18 stand rejected under 35 U.S.C. §103 as being unpatentable over the acknowledged prior art in view of Tanaka et al. [USP 5,825,742; "Tanaka"]. Applicants respectfully traverse as discussed below. Because claims 1 and 2 were amended in the instant

amendment, the following discussion refers to the language of the amended claims. However, as claims 1 and 2 were amended for clarity and claim 2 also was re-written in independent form; none of the amended features are specifically relied upon to distinguish the claimed invention from the cited/ acknowledged prior art. Applicants address the within rejection separately as to each of the independent claims and the dependent claims associated therewith.

### **CLAIMS 1, 3, 5, 7, 9, 11, 13 15, & 17**

Applicants claim, claim 1, an optical reproducing device that includes a predetermined length mark signal measurement means and a power control means. The predetermined length mark signal measurement means measures reproduction signal characteristics respectively of a short reproducing power control mark and of a long reproducing power control mark from information data recorded in an optical recording medium. The power control means controls the reproducing power of a light beam based on the measured reproduction signal characteristics of the short and long reproducing power control marks. Further, the predetermined length mark signal measurement means is configured and arranged to detect a specific pattern including the short reproducing power control mark from the bit arrangement pattern of the information data, and to measure the reproduction signal characteristic(s) corresponding only to the short reproducing power control mark included in the specific pattern.

Applicants respectfully note that the combination of the acknowledged prior art and Tanaka does not appear to be proper as explained hereinafter. The present invention and the discussion of the acknowledged prior art are directed to devices for reproducing information that

is already recorded in an optical recording medium. The invention described and taught in Tanaka on the other hand is directed to a device/ apparatus and technique for *recording* information in the optical medium. Also, the discussion in columns 9-11 of Tanaka and related *inter alia* to Figures 9-10 thereof (apparently being referred to in the Office Action), is directed to the program or process for evaluating the effect that the invention in Tanaka would have on edge shift and jitter of the recording mark. Thus, it is explained in Tanaka that recording marks were made/ formed in the optical recording medium in both a pattern-shift pattern and a thermal shift pattern using the method of the Tanaka invention.

It is clear from the discussion in Tanaka (see col. 9, lines 15-65) that the measurement is being performed after completion of recording for purpose of evaluating the performance of the invention described in Tanaka. That is, the measurements being described in Tanaka are for obtaining results that are being used to compare the Tanaka invention with conventional or known devices. This is done to illustrate / show the effectiveness of Tanaka's invention as compared to conventional/ prior art inventions/ devices.

It also is clear from this discussion in Tanaka that the measurements are not performed by a mark signal measurement means. Further, there is nothing in Tanaka indicating or suggesting that such measurements are provided to a power control means/ device to control the power of the light beam such as the power of a light beam being used for reproducing information from an optical recording medium. Thus, it is clear that these measurements and any teaching related thereto are not performed by any means/ device/ mechanism/ step that is part of the optical recording device/ method.

The only discussion in Tanaka that specifically relates to reproducing information that was already recorded in the optical recording medium is found in col. 7, lines 40-49 thereof. This portion in Tanaka briefly describes the basic process for reproducing a magneto-optical recording medium as described in Tanaka with little detail.

Applicants also respectfully disagree with the characterization of what is asserted as being disclosed in the admitted prior art and Tanaka. As provided in pages 5-7 of the subject application, Fig. 5 thereof shows a structure of an optical reproducing device that is particularly arranged to reproduce information from a magneto-optical disk having the structure shown in Fig. 6. It also is described therein that the magneto-optical recording medium of Fig. 6, is structured so as to include an address area 301, a reproducing power control area 302 in which are recorded reproducing power control marks and a data recording area 303 in which is recorded digital information data.

It is further described in Tanaka that the optical reproducing device in Tanaka is configured to detect and measure the amplitudes of the control marks recorded in the reproducing power control area 302. As such, the structure of the optical reproducing device in Tanaka necessarily and inherently must be different from that of the present invention, and further such a structure is intended to function in a completely different manner from that of the claimed invention.

More specifically, the structure of such an optical reproducing device is intended to be used with magneto-optical recording medium in which the reproducing power control marks are recorded in an area of the recording medium that is separate and distinct from the area in which

is recorded digital information data. As such, it necessarily follows that there is no teaching, suggestion nor motivation offered for modifying that optical recording device disclosed in Tanaka to detect reproducing power control marks recorded in the same area as the digital information data as well as measuring the amplitudes of such reproducing control marks that are recorded in this area of the magneto-optical recording medium.

As to Tanaka, this teaches a method for recording marks and spaces of small diameters in an optical recording medium by irradiating the medium with a light beam by pulse emission in five power values. While Tanaka may describe forming control marks and spaces in the medium in both a pattern-shift pattern and a thermal shift pattern using the method of the Tanaka invention, it is clear from the discussion in Tanaka that this is done as part of the program or process for evaluating the effectiveness that the invention in Tanaka would have on edge shift and jitter of the recording mark. Thus, the recording marks that were made/ formed in the optical recording medium in both a pattern-shift pattern and a thermal shift pattern do not relate to particular techniques as to how to record reproducing power control marks in a magneto-optical recording medium nor techniques for reproducing such control marks if they are recorded in the area in which digital information data is to be recorded.

Even assuming *arguendo* that the teachings of the acknowledged art and Tanaka were combined, the combination still would not yield the invention being claimed by Applicants. If such a combination were made, the resultant would be an optical reproducing device where tests would be performed after a recording process was completed to determine the pattern and

thermal shift of the recorded marks. It is clear that such a reproducing device would not correspond to the optical reproducing device as set forth in claim 1.

In sum, the asserted combination of the admitted prior art and Tanaka does not disclose, describe, teach nor suggest an optical reproducing device having a predetermined length mark signal measurement means for measuring reproduction signal characteristics respectively of a short reproducing power control mark and of a long reproducing power control mark from information data that is recorded in data recording area of an optical recording medium. Further, the asserted combination of the admitted prior art and Tanaka does not disclose, describe, teach nor suggest an optical reproducing device in which the predetermined length mark signal measurement means is further configured and arranged for detecting a specific pattern including the short reproducing power control mark from a bit arrangement pattern of the information data in the data recording area, and for measuring the reproduction signal characteristic corresponding only to the short reproducing power control mark included in the specific pattern. Moreover, the asserted combination of the admitted prior art and Tanaka does not disclose, describe, teach, suggest nor offer any motivation for modifying the optical reproducing device disclosed and described in Fig. 5 so as to yield the optical reproducing device of claim 1.

It also is clear that any modification to the system disclosed in Fig. 5 would destroy the intended purpose and function of such a device. Applicants also submit that there is no suggestion in either Fig. 5 or Tanaka that if the device shown in Fig. 5 was modified so as to have the structure of the device of claim 1 as well as to be capable of doing what the claimed invention can do, such a modification would be work/ be reasonably successful.

Applicants also would note that whatever may result from the combination, the teachings in Tanaka suffer from the same problems as described in the Background discussion of the subject application. As illustrated in Figs. 9-10 in Tanaka, mark/ spaces of different periods similar to the arrangements shown in prior art Figs. 8(b)-8(d) of the subject application are utilized in Tanaka. As such, Tanaka inherently suffers from the same problem of the reproduction waveform of the 2T mark suffering from interference from a larger mark or space before and after the 2T mark (e.g., see page 10, lines 9-14 of the subject application).

Each of claims 3, 5, 7, 9, 11, 13, 15 and 17 each depend from claim 1, as such each of these claims is considered to be allowable at least because of their dependency from a base claim that is considered to be allowable. This, however, shall not be considered to be or construed as an admission that these claims are not separately patentable from the asserted combination of the admitted prior art and Tanaka.

It is respectfully submitted that claims 1, 3, 5, 7, 9, 11, 13 15, and 17 are patentable over the cited reference(s)/ acknowledged prior art for the foregoing reasons.

## **CLAIMS 2, 4, 6, 8, 10, 12, 14, 16, & 18**

Applicants claim, claim 2, an optical reproducing device that includes a predetermined length mark signal measurement means and a power control means. The predetermined length mark signal measurement means measures reproduction signal characteristics respectively of a short reproducing power control mark and of a long reproducing power control mark from information data recorded in an optical recording medium. The power control means controls

reproducing power of a light beam based on the measured reproduction signal characteristics of the short and long reproducing power control marks.

More particularly, the predetermined length mark signal measurement means includes data reproduction means, comparison means and signal measurement means. The data reproduction means reproduces information data bits from a reproduction signal of the optical recording medium. The comparison means compares a bit arrangement pattern of the information data reproduced by the data reproduction means with a specific pattern including the short reproducing power control mark, and detects a coincidence of the specific pattern in the bit arrangement pattern of the information data. The signal measurement means measures the reproduction signal characteristic of information data bits corresponding to the short reproducing power control mark included in the specific pattern detected by the comparison means.

In addition to the reasons provided above in regards to the discussion concerning claim 1, applicants make following additional observations. The admitted prior art and Tanaka do not anywhere describe, disclose nor teach a predetermined length mark signal measurement means that includes *inter alia* a comparison means and signal measurement means. The comparison means compares a bit arrangement pattern of the information data reproduced by the data reproduction means with a specific pattern including the short reproducing power control mark, and detects a coincidence of the specific pattern in the bit arrangement pattern of the information data.

As is clear from the discussion above regarding claim 1, the device shown in Fig. 5 is configured and arranged to work with a magnet-optical recording medium in which the

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reproducing power control marks are recorded in a reproducing power control area. Thus, such a device cannot inherently include a comparison means.

In the claimed invention, the signal measurement means measures the reproduction signal characteristic of information data bits corresponding to the short reproducing power control mark included in the specific pattern detected by the comparison means. It necessarily follows that the device in Fig. 5, cannot include this structure/ function as the device of Fig. 5 does not include a comparison means.

Each of claims 4, 6, 8, 10, 12, 14, 15 and 18 each depend from claim 2, as such each of these claims is considered to be allowable at least because of their dependency from a base claim that is considered to be allowable. This, however, shall not be considered to be or construed as an admission that these claims are not separately patentable from the asserted combination of the admitted prior art and Tanaka.

It is respectfully submitted that claims 2, 4, 6, 8, 10, 12, 14, 16, and 18 are patentable over the cited reference(s)/ acknowledged prior art for the foregoing reasons.

The following additional remarks shall apply to each of the above.

As provided in MPEP 2143.01, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F. 2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F. 2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

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As provided above, the references cited, alone or in combination, include no such teaching, suggestion or motivation.

Furthermore, and as provided in MPEP 2143.02, a prior art reference can be combined or modified to reject claims as obvious as long as there is a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 19866). Additionally, it also has been held that if the proposed modification or combination would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. Further, and as provided in MPEP-2143, the teaching or suggestion to make the claimed combination and the reasonable suggestion of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). As can be seen from the forgoing discussion regarding the disclosures of the cited references and the admitted prior art, there is no reasonable expectation of success provided in the reference or the admitted prior art. Also, it is clear from the foregoing discussion that the modification suggested by the Examiner would change the principle of operation of the device disclosed in the reference.

As the USPTO Board of Patent Appeals and Interferences has held, "The mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims on appeal is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without benefit of appellant's specification, to make the necessary changes in the reference device." *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ351, 353 (BD. Pat. App. & Inter. 1984). It is clear from the foregoing

remarks, however, that the suggested modification to the device disclosed in the acknowledged prior art would require a modification to the operation of the disclosed device and/or is more than an obvious matter of design choice.

As the Federal Circuit also has recently stated in *In re SANG-SU LEE*, 271 F.3d 1338, 1342-1344; 277 USPQ 2d 1430 (Fed. Cir. 2002):

As applied to the determination of patentability *vel non* when the issue is obviousness, "it is fundamental that rejections under 35 U.S.C. §103 must be based on evidence comprehended by the language of that section." *In re Grasselli*, 713 F.2d 731, 739, 218 USPQ 769, 775 (Fed.Cir.1983). The essential factual evidence on the issue of obviousness is set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 86 S.Ct. 684, 15 L.Ed.2d 545, 148 USPQ 459, 467 (1966) and extensive ensuing precedent. The patent examination process centers on prior art and the analysis thereof. When patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness. *See, e.g., McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351-52, 60 USPQ2d 1001, 1008 (Fed.Cir.2001) ("the central question is whether there is reason to combine [the] references," a question of fact drawing on the *Graham* factors).

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The need for specificity pervades this authority. *See, e.g., In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed.Cir.2000) ("particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed"); *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453,

1459 (Fed.Cir.1998) ("even when the level of skill in the art is high, the Board must identify specifically the principle, known to one of ordinary skill, that suggests the claimed combination. In other words, the Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious."); *In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed.Cir.1992) (the examiner can satisfy the burden of showing obviousness of the combination "only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references").

It is respectfully submitted that for the foregoing reasons, claims 1-18 are patentable over the cited reference(s) and thus, satisfy the requirements of 35 U.S.C. §103. As such, these claims are allowable.

CLAIMS 13-16

As indicated above, claims 13-16 were objected to on the grounds that these claims were in improper dependent form. More specifically, it is asserted that in the parent or base claim is limited to measuring only the short pulse/ mark and not the long mark and that claims 13-16 are not acceptable because they each further limit the measured long pulse.

It is respectfully submitted that claims 13-16, as provided below, properly further limit the limitations of the respective base claim (*i.e.*, claims 1 or 2) and thus are in proper form for narrowing the scope of a base claim.

As indicated above, claims 1 and 2 each claim an optical reproducing device that includes, *inter alia*, predetermined length mark signal measurement means for measuring respective reproduction signal characteristics of a short reproducing power control mark *and a long reproducing power control mark* from information data recorded in an optical recording medium (italics added for emphasis). Claims 1 and 2 further provide that the predetermined length mark signal measurement means detects a specific pattern including the short reproducing power control mark from a bit arrangement pattern of the information data in the data recording area, and measures the reproduction signal characteristic corresponding only to the short reproducing power control mark included in the specific pattern.

From the above from the above, the reproduction signal characteristics corresponding to the short reproducing power control mark(s) are measured in the case where a specific pattern including the short reproducing mark is detected. This does not mean, not should it be construed to mean, however, that the predetermined length measurement means of claim 1 is limited to measuring only the reproduction signal characteristics correspondingly only to the short reproducing power control marks in *all* cases, which is what appears to be asserted in the Office Action.

As such, Applicants respectfully submit that any of claim 13-18 does further limit the subject matter of any of the base claims and thus, claims 13-16 satisfy applicable patent rules and are acceptable. Accordingly, withdrawal of the objection is respectfully requested.

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CLAIMS 19-20

As indicated above, claims 19 and 20 were added to more distinctly claim embodiments of the present invention. These claims, as provided are clearly supported by the originally filed disclosure, including the originally filed claims. It also is respectfully submitted that these added claims are patentable over the cited combination of admitted prior art and Tanaka on which the above-described rejection(s) are based.

SPECIFICATION OBJECTIONS

The Examiner objected to the specification of the subject application. More specifically the Examiner objected to the TITLE as not being descriptive of the invention being claimed and requested correction.

The TITLE has been amended in the instant amendment to address the Examiner's objections. As such, the TITLE, as amended, is considered acceptable.

It is respectfully submitted that for the foregoing reasons, the specification satisfies applicable Patent laws and rules and, therefore is considered acceptable.

It is respectfully submitted that the subject application is in a condition for allowance. Early and favorable action is requested.

Because the total number of claims and/or the total number of independent claims post amendment now exceed the highest number previously paid for, a check is enclosed herewith for the required additional fees. However, if for any reason a fee is required, a fee paid is inadequate

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or credit is owed for any excess fee paid, the Commissioner is hereby authorized and requested to charge Deposit Account No. **04-1105**.

Respectfully submitted,  
Edwards & Angell, LLP

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